

## REMARKS

Claims 1-64 were pending at the time of the Advisory Action. Claims 1, 26, 26 and 43 are amended. No new matter is added. Accordingly, claims 1-64 are pending in the application.

### **Request for Continued Examination**

The Advisory Action indicated that the Amendment of December 23, 2008, raised new issues that would require further consideration and/or search.

This amendment is filed concurrently with the filing of a Request for Continued Examination. As such, Applicants respectfully request that this amendment be entered.

### **Examiner's Response to Previously Filed Arguments**

In page 2 of the Advisory Action, the Examiner stated that arguments regarding independent claim 43 and dependent claims 53 and 61 were considered but were found not to be persuasive.

Applicants respectfully traverse the rejection of independent claim 43 and claims depending therefrom in that each of the previously presented claims recites a method having features that are distinguishable from the cited references.

However, to expedite issuance of this application as a patent, Applicants have amended claim 43 to further distinguish the claim over the cited references. In more detail, amended claim 43 recites, in relevant portions:

implanting an implantable sensor at a single site in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements operable through electrical communication with an external controller having a plurality of interconnects, each of the plurality of interconnects independently connected to a respective one of the plurality of implantable sensing elements . . .

wherein the plurality of interconnects are equal in number to the plurality of implantable sensing elements. (Emphasis added.)

Regarding claim 43, the Examiner stated: “As the method claim is a comprising claim, it does not preclude two or more wire conductors attaching each electrode or sensor to the external controller, thus rendering Gord capable of performing its intended purpose.” (Advisory Action, page 2.)

Further, the Examiner stated:

Examiner wishes to note the test of obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). (Advisory Action, page 2.)

Although MPEP § 2145 cites the same text of the *Keller* opinion that is quoted above, this section further provides: “However, the claimed combination cannot change the principle of operation of the primary reference or render the reference inoperable for its intended purpose.” MPEP § 2145 (III). As such, a claimed combination that renders a primary reference inoperable for its intended purpose does not render a claim *prima facie* obvious.

Therefore, Applicants respectfully submit that amended claim 43 is patentable over Gord et al. (“Gord,” U.S. Patent No. 5,999,848) and Beranek et al. (“Beranek,” U.S. Patent No. 4,608,986). Combining these references to arrive at amended claim 43 would render Gord inoperable for its intended purpose, for reasons similar to reasons previously presented in the Amendment of December 23, 2008. (For the Examiner’s convenience, portions of the Remarks section of the Amendment of December 23, 2008, are reproduced beginning on page 17 of this document.)

For example, modifying Gord to arrive at a method wherein the plurality of interconnects are equal in number to the plurality of implantable sensing elements would render Gord

inoperable for its intended purpose. As previously explained in the Amendment of December 23, 2008, the operation of the configuration described in Gord uses more than one conductor, e.g., more than one conductor connected between the controller 20 and the device 18a, as shown in Gord's FIG. 2. Therefore, the conductors used in Gord are greater in number than the devices (e.g., device 18a).

At least for the reasons presented above and for the reasons presented in the Amendment of December 23, 2008, it is believed that claim 43 is patentable over the cited references.

Each of claims 44-48, 53 and 61 depends directly from claim 43. At least for this reason, it is believed that claims 44-48, 53 and 61 are patentable over the cited art.

Independent Claims 1, 26 and 43 and Claims Depending Therefrom

Applicants respectfully traverse the rejection of independent claims 1, 26 and 43 in that each of the previously presented claims recites a method having features that are distinguishable from the cited references.

However, to expedite issuance of this application as a patent, Applicants have amended each of claims 1, 26 and 43 to further distinguish the claim over the cited references. In more detail, each of claims 1, 26 and 43 has been amended to recite: "wherein the plurality of interconnects are equal in number to the plurality of implantable sensing elements."

For reasons similar to those explained above with respect to claim 43, it is believed that claims 1, 26 and 43 are patentable over the cited art.

Claims 2-25, 49, 51, 59 and 62, claims 27-41, 50, 52, 60 and 63 and claims 54-58 and 64 depend, either directly or indirectly, from claims 1, 26 and 42, respectively. At least for this reason, it is believed that claims 2-42, 49-52, 54-60 and 62-64 are patentable over the cited references.

**Reproduction of Portions of Previously Filed Remarks From Amendment of  
December 23, 2008**

On page 4 of the Office Action, claims 1-4, 8, 9, 11-12, 26, 30, 31, 33, 42 and 55-58 were rejected under 35 U.S.C. 102(b) as being anticipated by Gord et al. ("Gord," U.S. Patent No. 5,999,848).

On page 6 of the Office Action, claims 5-7, 10, 13-25, 27-29, 32 and 34-41 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gord.

On page 8 of the Office Action, claims 43-54 and 59-61 were rejected under 35 U.S.C. 103(a) as being unpatentable over Gord in view of Beranek et al. ("Beranek," U.S. Patent No. 4,608,986).

These rejections are respectfully traversed.

**Independent Claim 1 And Claims Depending Therefrom**

Claim 1 has been amended to recite features similar to features recited in claim 43. In more detail, amended claim 1 recites:

A method of sensing multiple parameters, the method comprising:

implanting an implantable sensor at a single site in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements operable through electrical communication with an external controller via a respective interconnect of a plurality of interconnects, each of the interconnects independently connected to a respective one of the implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements allowing for sensing at least one of a respective biological parameter, a respective physiological parameter, and a respective analyte; and

reading an output from at least one implantable sensing element of the plurality of implantable sensing elements,

wherein a plurality of parameters are read from the implantable sensor at the single site, and

wherein the output read from said at least one implantable sensing element of the plurality of implantable sensing elements is a quantifiable value.  
(Emphasis added.)

With respect to claim 43, the Examiner acknowledged that Gord does not “teach implantable sensing element attached to an external controller independently via an interconnect.” (Office Action, page 8.) However, the Examiner contended that Beranek supplies the features acknowledged to be missing in Gord. Further, the Examiner contended that it would have been obvious to modify the device of Gord by including a parallel connection of sensors, as described in Beranek.

Applicants respectfully disagree with the above contentions. Here, Applicants respectfully submit that the teachings of Gord and Beranek are not sufficient to render claim 1 prima facie obvious because the proposed modification of Gord would change the principle of operation of Gord. (See MPEP, § 2143.01.)

Further, Applicants respectfully submit that it would not have been obvious to modify Gord as proposed by the Examiner, because the proposed modification would render Gord unsatisfactory for its intended purpose. (See MPEP, § 2143.01.)

Gord describes devices that are serially connected using a minimum number of conductors, e.g., two conductors, between connected device pairs. (See, e.g., Gord, col. 9, lines 2-6, and FIG. 2, which shows two conductors 14' and 16' between controller 20 and device 18a.) These conductors are for providing a common signal and return path for data and power signals. (See Gord, col. 6, lines 56-61.) Gord describes that the data may include biphasic data pulses that are applied between first and second line conductors. (See Gord, col. 4, lines 55-59.)

As an example of the application of the biphasic data pulses between the first and second line conductors, Gord describes a situation where a first pulse of a biphasic pulse pair is positive:

a positive pulse is first received on LINE 1 relative to LINE 2. (See Gord, col. 19, lines 51-53.) As another example, Gord describes another situation where a first pulse of a biphasic pulse pair is negative: a negative pulse is first received on LINE 1 relative to LINE 2. (See Gord, col. 19, lines 51-53.)

Because the application of the biphasic data pulse requires application of pulses of a certain polarity to one line conductor relative to another line conductor, the operation of the configuration described in Gord requires more than one conductor, e.g., more than one conductor connected between the controller 20 and the device 18a, as shown in Gord's FIG. 2. Because Gord requires more than conductor, Applicants respectfully submit that the proposed modification of Gord – i.e., to utilize an independent wire conductor (such as one of wire conductors 61, 62, 63, 64, as disclosed in Beranek) between controller 20 and device 18a – would change the principle of operation of Gord. As explained previously, Gord describes the application of biphasic phase pulses between more than one conductors.

Further, the proposed modification would render Gord unsatisfactory for its intended purpose of applying and detecting biphasic pulses. For example, if Gord were modified to utilize an independent wire conductor (such as merely one of wire conductors 61, 62, 63, 64, as disclosed in Beranek) between controller 20 and device 18a, it would not be possible to detect the application of a pulse to one conductor relative to another conductor. As such, the proposed modification of Gord would render Gord unable to apply and detect biphasic pulses.

At least for the reasons explained, it is believed that claim 1 is patentable over the cited art.

Claims 2-25, 49, 51 and 59 depend, either directly or indirectly, from claim 1. At least for this reason, it is believed that claims 2-25, 49, 51 and 59 are patentable over the cited art.

Independent Claim 26 And Claims Depending Therefrom

As amended, claim 26 recites:

A method of evaluating a patient, the method comprising:

implanting an implantable sensor in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements operable through electrical communication with an external controller via a respective interconnect of a plurality of interconnects, each of the interconnects independently connected to a respective one of the implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements allowing for sensing at least one of a respective biological parameter, a respective physiological parameter, and a respective analyte;

reading an output from at least one implantable sensing element of the plurality of implantable sensing elements; and

evaluating the patient based on the output read from the at least one implantable sensing element,

wherein a plurality of parameters are read from the implantable sensor at a single site, and

wherein the output read from said at least one implantable sensing element of the plurality of implantable sensing elements is a quantifiable value.  
(Emphasis added.)

At least for reasons similar to those explained with respect to claim 1, it is believed that claim 26 is patentable over the cited art.

Each of claims 27-41, 50, 52 and 60 depends directly from claim 26. At least for this reason, it is believed that claims 27-41, 50, 52 and 60 are patentable over the cited art.

Independent Claim 42 And Claims Depending Therefrom

As amended, claim 42 recites:

A method of sensing multiple parameters, the method comprising:

implanting an implantable sensor at a single site in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements, each of the implantable sensing elements operable

through electrical communication with an external controller via a respective one of a plurality of interconnects, each of the interconnects independently connected to a respective one of the implantable sensing elements; and

reading an output from at least one implantable sensing element of the plurality of implantable sensing elements,

wherein a plurality of parameters are read from the implantable sensor at the single site, and

wherein the output read from said at least one implantable sensing element of the plurality of implantable sensing elements is a quantifiable value.  
(Emphasis added.)

At least for reasons similar to those explained with respect to claim 1, it is believed that claim 42 is patentable over the cited art.

Each of claims 54-58 depends directly from claim 42. At least for this reason, it is believed that claims 54-58 are patentable over the cited art.

#### Independent Claim 43 And Claims Depending Therefrom

As previously presented, claim 43 recites:

A method of sensing multiple parameters, the method comprising:

implanting an implantable sensor at a single site in a patient, the implantable sensor having a housing within which are disposed a plurality of implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements operable through electrical communication with an external controller having a plurality of interconnects, each of the plurality of interconnects independently connected to a respective one of the plurality of implantable sensing elements, each implantable sensing element of the plurality of implantable sensing elements allowing for sensing at least one of a respective biological parameter, a respective physiological parameter, and a respective analyte; and

reading an output from at least one implantable sensing element of the plurality of implantable sensing elements,



wherein a plurality of parameters are read from the implantable sensor at the single site,

wherein the output read from said at least one implantable sensing element of the plurality of implantable sensing elements is a quantifiable value, and

wherein the plurality of implantable sensing elements comprises a lactate sensing element measuring a parameter for blood lactate level, a blood oxygen saturation sensing element measuring a parameter for blood oxygen level, and a pH level sensing element measuring a parameter for pH level. (Emphasis added.)

At least for reasons similar to those explained with respect to claim 1, it is believed that claim 43 is patentable over the cited art.

Each of claims 44-48, 53 and 61 depends directly from claim 43. At least for this reason, it is believed that claims 44-48, 53 and 61 are patentable over the cited art.

#### **Concluding Remarks**

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

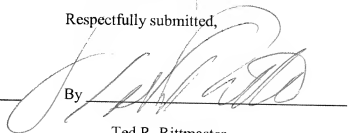
The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date

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By



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